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Nutrition Project

Kenya Infant Feeding Assessment Eastern & Western Provinces

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Assessment of infant feeding among HIV-infected mothers

Goal: To assess HIV-infected mothers' and their infants' experiences during the time they stopped breastfeeding.

Objectives

- Assess the clinic-based counseling practices regarding HIV and infant feeding.
- Describe the infant feeding practices and infant health of HIV-exposed infants during the time they were stopping breastfeeding.
- Identify the experiences of HIV-infected mothers during the weaning period.

Cessation of breastfeeding: a time of high risk

- Lack of continued breast milk may negatively impact infant health.
- Lack of immune protection and introduction of antigens.
- Increased risk of malnutrition, stunting, diarrhea, serious gastroenteritis.
- Increase in breast milk viral load during weaning.
- Too much time on the when not the *how* to stop breastfeeding.

WHO recommendations

- Exclusive breastfeeding is recommended for HIV-infected women for the first 6 months of life unless replacement feeding is **acceptable, feasible, affordable, sustainable and safe** (AFASS) for them and their infants before that time.
- If replacement feeding is still not AFASS at 6 months, breastfeeding should continue with complementary feeding, until a nutritionally adequate and safe diet without breast milk can be provided.
 - Gradually eliminate breastfeeding sessions over several weeks

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Study design

- Descriptive study to collect formative research data
- May-Sept 2008
- Eastern Province
 - Food insecure
 - HIV prevalence: 4.1
- Western Province
 - Food secure
 - HIV prevalence: 5.1



Photo: Mike Wang, PATH

Methodology

- Post-counseling exit interviews
- Direct observations of counseling sessions
- Cross sectional survey – in-depth interviews
- Stakeholder interviews with nutritionists and nursing officers



Photo: Wendy Stone

Results: Exit interviews

- 71% indicated that infant feeding practices were discussed
 - 69.2% of ANC mothers told about EBF
 - 61.5% with 6-mo old infants told about addition of other milks
- Complementary feeding discussed with 36% at ANC, with 69% who had infants 6 mos of age
 - Quantity and frequency rarely discussed
- Majority of counseling provided by nurses
- ~6% included visit with a nutritionist
- Individual counseling rare especially in Western Province

Results: Exit interviews

- How to stop breastfeeding discussed with 42%
- Included several topics but no comprehensive plans on how to safely stop breastfeeding
- Topics discussed;
 - Infant age
 - Replacement feeding
 - Time period
 - Disclosure and stigma
- 82.5% had weight of mother or infant taken
 - Only 24.4% had child welfare card examined or used which is a missed opportunity for growth monitoring
- Proper hygiene discussed with only 40% mothers yet crucial for AFASS assessment to determine if replacement feeding is appropriate

Results: Exit interviews

- Manual expression of breast milk to relieve engorgement was rarely mentioned (24%) yet it has been shown to be an effective way to improve breast health and thereby reduce risk of transmission
- There was unequal emphasis of risks by provider
 - 70% discussed risks of HIV transmission
 - Only 40% discussed risks from replacement foods
- No written educational materials were available for either the counselors or the mother

Results: Counseling observations

- All ANC counseling included EBF discussion
- Majority discussed how to stop breastfeeding
- 29% mentioned manual expression of breast milk
- 67% of postnatal counselors discussed complementary foods
 - Few mentioned frequency and quantity and appropriate local foods to be able to optimally feed the infants
- 83% of infants were weighed
 - ~50% of these indicated on child welfare card
- Unequal emphasis of risks
 - Risk of replacement feeding during ANC
 - Risk of HIV transmission from breastfeeding during postnatal

COUNSELLING

- Individualized counseling, essential for appropriate infant feeding counseling, is rare
- The individualized counseling that does take place occurs immediately after the mother receives her HIV test result in ANC
- Lack of harmonization and continuity across services results in confusing messages for mothers (e.g ANC, PNC)
- Confidential means to identify HIV-exposed infants/children do not exist, resulting in lost opportunities for infant feeding counseling and for entering infected infants into appropriate care

Results: Survey

- Majority (84%) had planned to breastfeed
- The duration of total breastfeeding was less than originally planned
- Planned mean duration of 8.8 mos; actual duration 4.6 mos
- Could have been due to pressure from health care providers to stop breastfeeding at an early age (much of which may have been conveyed to the population in earlier years)
 - 12.6% had planned to feed on cow's milk from birth

Results: Survey

- 70% received advice on stopping breastfeeding but not comprehensive
- Many mothers were not successful weaning the first time and required multiple attempts, which put the infant at risk
- Mean of 6.2 days was needed to stop breastfeeding
- >3 attempts often needed

Problems experienced by mothers while attempting to stop breastfeeding

Problem	Percentage
Difficulty in stopping breastfeeding	
Not very difficult	31.23
Less difficult	21.05
More difficult	18.95
Very difficult	28.77
Number of problems experienced while stopping breastfeeding*	
0	6.32
1	16.14
2	24.91
≥ 3	52.63
*Infant fussy, mother ill, infant ill, disapproval from family/community, no food for infant, breast pain, infection, mastitis, cracked/bleeding nipples, fever.	

Results: Survey

- Physical and psychosocial problems during weaning were common
- More than 50% of mothers reported experiencing many problems during this period
- Given that some of these problems, such as cracked nipples, could lead to transmission, this suggests that additional support during such a high risk time is warranted

Results: Survey

- Liquids and solids fed during weaning
- Most foods and liquids were considered expensive.
 - More variety was reported fed in Western
 - Less variety reported in Eastern
- 90% fed some kind of milk during weaning
- Liquids and solids fed 24 hours prior to interview
 - 67% fed any kind of animal milk

Results: Survey

- Nearly 35% of infants were not fed any type of animal milk in the 24 hours prior to this interview
- Since more had reported feeding milks during weaning, this suggests it may not have been a sustainable dietary pattern
- This is of concern since none of the infants in this study were currently breastfeeding and thus all required animal-based milk to ensure adequate nutrition

Infant morbidities experienced during and after weaning

Morbidities during and after stopping breastfeeding	Percentage of respondents	
	Eastern Province (n = 137)	Western Province (n = 148)
Respiratory illness	13.9	20.9
Diarrhea	43.8	42.6
Dehydration symptoms	14.6	16.2
Fever	43.1	65.5
Refused to eat	21.9	22.3
Malnutrition symptoms	7.3	14.2

Results: Survey

- Infant morbidities experienced during and after stopping breastfeeding seemed higher in Western Province than in Eastern
- Fevers were more likely in Western, possibly due to malaria burden

Mid-upper arm circumference and weight-for-age z-scores <-2

	% MUAC z-score <-2	% weight-for-age z-score <-2
Western Province	13.4	21.6
Eastern Province	8.4	16.2

Results: Survey

- Overall, 19% of the infants were considered to be malnourished and underweight, with WFA z-scores < -2
- Infants who experienced illness or weight loss or lacked food were more likely to have compromised nutritional status
- Western had infants at extremes of development: *highest WFA scores & highest no. with z scores < -2*
- These data are similar to children in this age group in the 2003 Kenya DHS
- Clearly this emphasizes the fact that many infants who recently stopped breastfeeding were not receiving adequate foods

Qualitative responses

- Challenges during weaning
 - How to get enough food and money for feeding baby (35%)
 - Breast pain, baby's health, stigma, baby unhappy, refusing food, HIV status, weight loss
- Challenges since weaning
 - How to get enough food and money for feeding baby (55%)
- 50% said they would stop breastfeeding in a different way but were unclear how

*“The baby looked too small to stop breastfeeding
but I felt I had no other option.”*

“Sometimes we sleep hungry and the baby takes black tea.”

“I have transport issues going to look for milk.”

Multivariate regression

Variables retained in model	Odds Ratio†	95% Confidence Interval	ρ value
Respiratory problems			
Mother illness during weaning	2.277	1.202, 4.311	0.012
Fed meat or eggs 24 hrs prior	2.358	1.132, 4.910	0.022
Diarrhea			
Infant age at interview	1.105	1.047, 1.167	<0.001
Infant ill or weight loss	3.241	1.608, 6.534	0.001
Dehydration symptoms			
Infant age at interview	1.076	1.008, 1.148	0.027
Fever			
Eastern Province	0.390	0.240, 0.638	<0.001
Infant age at interview	1.072	1.013, 1.135	0.016
Mother employed	0.614	0.377, 0.999	0.050
≥3 visits to health clinic			
Infant age at interview	1.090	1.022, 1.163	0.008
Number of weaning problems	1.303	1.071, 1.584	0.008
≥3 visits to hospital			
Infant age at interview	1.097	1.011, 1.190	0.026

Multivariate regression

- If mother was ill during weaning, the infant was more likely to have respiratory problems, most likely transmitted from mother
- As the number of weaning problems increased, so did the number of visits to a health center over time
- This suggests that if mothers have challenges stopping breastfeeding this could translate to compromised infant health

Results: Stakeholder interviews

- Most pressing challenge for HIV-exposed infants
 - Poverty
 - Lack of nutrition training among health care staff
- Previous message not to breastfeed was slow to change. Many counselors still clung to the older messages either not to breastfeed or to rapidly stop breastfeeding at 6 mos.
- Primary factor in a mother's infant feeding choice was the counseling she received
 - Too often reflected the biases of the counselor

Results: Stakeholder interviews

- Systems challenges to improving counseling
 - High staff workload, which limits time available for counseling
 - Clinical aspects of PMTCT prioritized, not infant nutrition
 - Nurses have inadequate nutrition knowledge even after PMTCT training
- Missed opportunities
 - Health talks for clients could focus more on infant feeding
 - Developing capacity at the community level
- Future directions
 - Focus on sustainable agricultural techniques
 - Promote male involvement in the infant feeding process

General Observations

- Mothers-in-law appeared to play a very significant role in infant feeding
- Cultural practices that could prove harmful to the infant e.g. “*kukitwa*” which involves rubbing of gums with soda ash and at times razor blades used. Often results in open wound in baby’s mouth, increasing the risk of HIV transmission

Conclusions

- Counseling not providing adequate infant feeding information
- AFASS assessments not comprehensive
- Challenges exist for HIV-infected mothers during weaning
 - Physical and psychosocial
 - Cost of quality foods and replacement milks
- Problems during weaning can impact infant nutritional status, growth, and morbidity
 - HIV-exposed especially vulnerable to growth faltering

Recommendations

- Increase level of PMTCT infant nutrition education
- Improve effectiveness of PMTCT counseling visits
- Ensure comprehensive AFASS assessments
- Provide IEC materials
- Promote manual expression as a BFHI criteria
- Provide infant feeding education at the community level
- Provide physical and psychosocial support to mothers during the weaning period
- Revise current child welfare cards for rapid identification of HIV-exposed infants

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Thank you!

